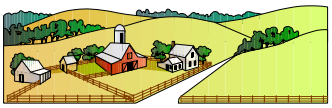
Vermont
Farm*A*Syst



Worksheet #5
Assessing the Risk of Groundwater Contamination from

Hazardous Waste Management

Why should I be concerned?

Consider the variety of products commonly used in households and on farms: paints, solvents, oils, cleaners, wood preservatives, batteries, adhesives and pesticides. In addition, some common disposal practices not only threaten groundwater but also may be illegal.

Small, unusable amounts often wind up spilled, buried, dumped or flushed onto farm property. Minimizing the amounts of these substances used on the farm, along with practicing proper disposal practices, can reduce both health risks and the potential for groundwater contamination. Farmers and their families are generally familiar with the hazards of pesticides commonly used in the farm operation, but they may be less aware of the hazards of other chemicals that make many tasks around the home and farm easier or more efficient.

Improper use of hazardous products may cause toxic health effects. Improper storage may allow chemicals to leak, causing potentially dangerous chemical reactions, toxic health effects or groundwater contamination. Improper disposal allows these dangerous chemicals to enter directly into drinking water through surface water or groundwater.

Your drinking water is least likely to be contaminated by your hazardous wastes if you follow appropriate management procedures or dispose of wastes in any location that is **off your farm site**. However, proper offsite disposal practices are essential to avoid risking contamination that could affect the water supplies and health of others.

The goal of Farm·A·Syst is to help you protect the groundwater that supplies your drinking water.

How will this worksheet help me protect my drinking water?

·It will take you step by step through your hazardous waste management practices.
·It will rank your activities according to how they might affect the groundwater that provides your drinking water supplies.
·It will provide you with easy-to-understand rankings that will help you analyze the risk level of your hazardous waste management practices.
·It will help you determine which of your practices are reasonably safe and effective, and which practices might require modification to better protect your drinking water.

Glossary
Hazardous Waste Management

These terms may help you make more accurate assessments when completing Worksheet #5. They may also help clarify some of the terms used in Fact Sheet #5.

Farm business: A farm that generates at least $1000 in net annual income from farming.

HHW/CEG: Household hazardous waste / conditionally exempt generator. Collections are organized by local solid waste districts usually throughout the summer months.

Hazardous waste contractor: A hazardous waste collection service offered by businesses with vehicles licensed to transport hazardous waste to licensed hazardous waste facilities.

Household hazardous waste collection program: A special program in which a community collects hazardous products from households and hazardous waste from small businesses for disposal in specially constructed hazardous waste landfills or incinerators.

Incinerator (municipal): A community incinerator specifically engineered to burn municipal quantities of home waste.

Licensed landfill: A landfill specifically designed to protect groundwater through the use of a high quality clay or clay/impermeable film liner, accompanied by a system of buried pipes to collect any liquids generated. Meets current state standards.

On-farm disposal: Any method of burning, dumping or land spreading of wastes on the farm. Also includes use of the septic system for disposal. This violates state laws.

Recycling: Reusing waste materials to develop another product.

Solvent recycler collection service: A pick-up service provided by businesses that reprocess used solvents.

Hazardous Waste Management

Resource Concern	Rank 4	Rank 3	Rank 2	Rank 1	Field Number
BUILDING/WOOD MAINTENANCE PRODUCTS					
Adhesives, such as caulk and solvent-based glues	Used up or shared with someone else. Hazardous waste contractor or local HHW/CEG collection used for leftover adhesives.	**Liquid evaporated in open air.** Leftovers disposed by hazardous waste contractor or HHW/CEG collection.	**Disposal of leftovers with trash at a licensed landfill or transfer station.**	**Disposal on farm.**	☐☐☐☐☐
Brush or spray gun cleaners	Used in contained, well ventilated area. Hazardous waste contractor or local HHW/CEG collection used for leftovers.	Used in contained, well ventilated area. Filtered cleaning solvents reused or **evaporated in open air.** Sludge disposed by a hazardous waste contractor or local HHW/CEG collection.	Used in uncontained, ventilated area. **Disposal with trash at a licensed landfill or transfer station.**	**Disposal on farm.**	☐☐☐☐☐
Lead-based paint	Hazardous waste contractor or local HHW/CEG collection used for leftovers.	**Remaining liquid is evaporated in open air.** Paints disposed by hazardous waste contractor or local HHW/CEG collection.	**Disposal with trash at a licensed landfill or transfer station.**	**Disposal on farm.**	☐☐☐☐☐
Paint or stain (no lead)	Used up or shared with someone else. Hazardous waste contractor or local HHW/CEG collection used for leftovers.	**Oil-based paint evaporated in open air.** Paints disposed by hazardous waste contractor or local HHW/CEG collection.	**Disposal of oil-based paints or stains with trash at a licensed landfill or transfer station.** (Less than 1 gallon dried latex paint	**Disposal on farm.**	☐☐☐☐☐

Boldface type: These actions pose a serious risk to drinking water and **are not legal** for wastes generated from a farm business. If you are unsure of how to dispose of specific wastes, contact your local Solid Waste District, Conservation District or the Agency of Natural Resources.

Hazardous Waste Management

Resource Concern	Rank 4	Rank 3	Rank 2	Rank 1	Field Number
			is allowed in trash).		
Stripper or thinner for paint/finish	Used in a contained, well ventilated area. Hazardous waste contractor or local HHW/CEG collection used for leftovers.	**Remaining liquid evaporated is in open air.** Stripper or sludges disposed by hazardous waste contractor or local HHW/CEG collection.	**Disposal of liquids or sludges with trash at a licensed landfill or transfer station.**	**Disposal on farm.**	☐☐☐☐☐
Surface cleaners (solvent based)	Used in contained, well ventilated area or shared with someone else. Hazardous waste contractor or local HHW/CEG collection used for leftovers.	**Remaining liquid evaporated is in open air.** Cleaners or sludges disposed by hazardous waste contractor or local HHW/CEG collection.	**Disposal of cleaners or sludges at a licensed landfill or transfer station.**	**Disposal on farm**	☐☐☐☐☐
CONTAINER DISPOSAL					
Paper/cardboard pesticide container	Returned to supplier. Hazardous waste contractor or local HHW/CEG collection used.	Empty container disposed with trash at a licensed landfill or transfer station.	**Disposal of empty container on farm.**	**Disposal of partially filled container on farm.**	☐☐☐☐☐
Plastic pesticide container	Triple-rinsed container returned tosupplier for reuse or recycling, or taken with trash to licensed landfill or transfer station. Rinsate applied to appropriate crops.	Unrinsed container disposed with trash at a licensed landfill or transfer station.	**Disposal of empty container on farm.**	**Disposal of partially filled container on farm.**	☐☐☐☐☐
Plastic container for oil or other vehicle product	Products used up and containers recycled or	**Remaining product evaporated in open air**	**Disposal of empty container on farm.**	**Disposal of partially filled container on**	☐☐☐☐☐

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Hazardous Waste Management

Resource Concern	Rank 4	Rank 3	Rank 2	Rank 1	Field Number
	disposed with trash at a licensed landfill or transfer station.	and container disposed with trash at a licensed landfill or transfer station.		**farm.**	
Hazardous household product containers	Products used up and containers recycled or disposed with trash at a licensed landfill or transfer station.	Partially filled containers disposed with trash at a licensed landfill or transfer station.	**Disposal of empty container on farm.**	**Disposal of partially filled container on farm.**	
PESTICIDES and WOOD PRESERVING					
Unwanted or banned pesticides/ preservatives	Use up or share products with others that are not banned. Participation in EPA banned pesticide buy-back program if offered. Returned to place of purchase. Use a hazardous waste contractor or local HHW/CEG collection.	Pesticides sold for restricted or general purposesare used up or disposed through a hazardous waste contractor or local HHW/CEG collection.	**Unused pesticides/ preservatives disposed in the trash.**	**Disposal of unused pesticides/ preservatives on farm.**	
Wood preservative application drips and spills	Drips/spills contained. Applicators and contaminated materials disposed by hazardous waste contractor or local HHW/CEG collection.	Drips/spills contained. **Applicators and contaminated materials disposed with trash at a licensed landfill or transfer station.**	Wood treatment without containment more than 100 feet from well. **Applicators and contaminated materials disposed with trash**.	Application without containment within 100 feet of well. **Disposal on farm.**	
VEHICLE/METAL EQUIPMENT					

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Hazardous Waste Management

Resource Concern	Rank 4	Rank 3	Rank 2	Rank 1	Field Number
MAINTENANCE PRODUCTS					
Used antifreeze	Saved and taken to an antifreeze recycler or hazardous waste contractor or local HHW/CEG collection.	Filtered and used as water in other radiators. **Disposed with trash at a licensed landfill or transfer station.**	**Disposal on farm away from well (including in septic system).**	**Disposal on farm near well.**	☐☐☐☐☐
Waste oil and grease	Taken to used oil collection tank for recycling.	Reused for lubrication. Burned for heat in an waste oil furnace**.**	**Disposal in the trash.**	**Disposal on farm.**	☐☐☐☐☐
Spent organic solvent/parts cleaner	Solvent recycler service used or hazardous waste contractor or local HHW/CEG collection.	Filtered in ventilated area and reused or **evaporated in open air**. Sludge disposed by hazardous waste contractor or local HHW/CEG collection.	**Disposal of solvents or sludge in trash.**	**Disposal of solvents or sludge on farm.**	☐☐☐☐☐
Rust-removal products	Used up or shared with someone else. Hazardous waste contractor or local HHW/CEG collection used.	Taken to licensed landfill or transfer station.	**Disposal of leftover product on farm.**	**Disposal of used product on farm.**	☐☐☐☐☐
Lead acid battery	Trade-in when buying new battery or take to local recycling center or scrap yard.	Stored away from well. Eventually taken to local recycling center or scrap yard.	Stored near well. **Disposed of in trash**.	**Disposal on farm near well.**	☐☐☐☐☐
Vehicle maintenance drips and spills	Contained on paved area with absorbent and disposed of with hazardous waste	Contained on paved area with absorbent and disposed of with trash at a licensed landfill or	Occasional flushing onto farm property near well.	Frequent flushing onto farm property near well.	☐☐☐☐☐

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Hazardous Waste Management

Resource Concern	Rank 4	Rank 3	Rank 2	Rank 1	Field Number
	contractor or local HHW/CEG collection.	transfer station. hazardous waste contractor or local HHW/CEG collection.			

Boldface type: These actions pose a serious risk to drinking water and **are not legal** for wastes generated from a farm business. If you are unsure of how to dispose of specific wastes, contact your local Solid Waste District, Conservation District or the Agency of Natural Resources.

What do I do with these rankings?

Step 1: Begin by determining your overall well management risk ranking. Total the rankings for the categories you completed and divide by the number of categories you ranked:

_____ divided by _____ equals *	
Rankings total from previous page	number of risk ranking categories ranked (11 if ranked all)

*Carry your answer out to one decimal place.

Example:
26 ÷11 = 2.36
Use 2.4.

Risk Ranking	Description
3.6 - 4.0 = low risk	1.6 - 2.5 = moderate to high risk
2.6 - 3.5 = low to moderate risk	1.0 - 1.5 = high risk

This ranking gives you an idea of how your well condition, **as a whole**, might be affecting your drinking water. This ranking should serve only as a **very general guide, not a precise diagnosis.** Because it represents an **averaging** of many individual rankings, it can overlook any **individual** rankings (such as 1's or 2's) that should be of concern. (Step 2 will focus on individually ranked activities of concern.)

Enter your boxed well condition ranking in the appropriate place in the table on the front of Worksheet #12. Later you will compare this risk ranking with other farmstead management rankings. Worksheet #11 will help you determine your farmstead's site conditions (soil type, soil depth, and bedrock characteristics), and worksheet #12 will show you how these site conditions affect your risk rankings.

Step 2: Look over your rankings for individual activities.

- **4's - Best:** low-risk practices
- **3's - Provide reasonable groundwater protection:** low- to moderate-risk practices
- **2's - Possibly inadequate protection:** moderate- to high-risk practices
- **1's - Inadequate protection with relatively high groundwater contamination risk:** high-risk practices

Regardless of your overall risk ranking, any individual rankings of "1" require immediate attention. You can take care of some of the concerns right away; others could be major or costly projects, requiring planning and prioritizing before you take action.

Find any activities that you identified as 1's and list them under "High-Risk Activities"on Worksheet #12.

Step 3: Read Fact Sheet #5, "*Improving Hazardous Waste Disposal*," and give some thought to how you might modify your farmstead practices to better protect your drinking water.

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Technical reviewers: Jeff Comstock, VT Department of Agriculture, Food & Markets; John Miller, VT Department of Environmental Conservation.

Coordinator: Heather Trillium, Winooski NRCD.

Steering Committee: Craig Altemose, University of Vermont Extension; Jon Anderson, VT. Natural Resources Conservation Council; Lynn Blouin, Franklin County Natural Resources Conservation District; Sid Bosworth, University of Vermont Extension; Gail Center, VT. Department of Health; Jeff Comstock, VT. Dept. of Agriculture, Food & Markets; Rob Farley, VT. Department of Environmental Conservation; Don Hipes, Winooski Natural Resources Conservation District; Elizabeth Hunt, VT. Department of Environmental Conservation; Dan Koloski, USDA Natural Resources Conservation Service; John Miller, VT. Department of Environmental Conservation; George Mills, VT. Department of Health; Pauline Pare, USDA Natural Resources Conservation Service; Ellen Sivret, USDA Natural Resources Conservation Service; Bill Snow, University of Vermont Extension; Heather Trillium, Winooski Natural Resources Conservation District Barbara Ann Trowbridge, USDA Farm Service Agency; Art Webb, Franklin County Natural Resources Conservation District.

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